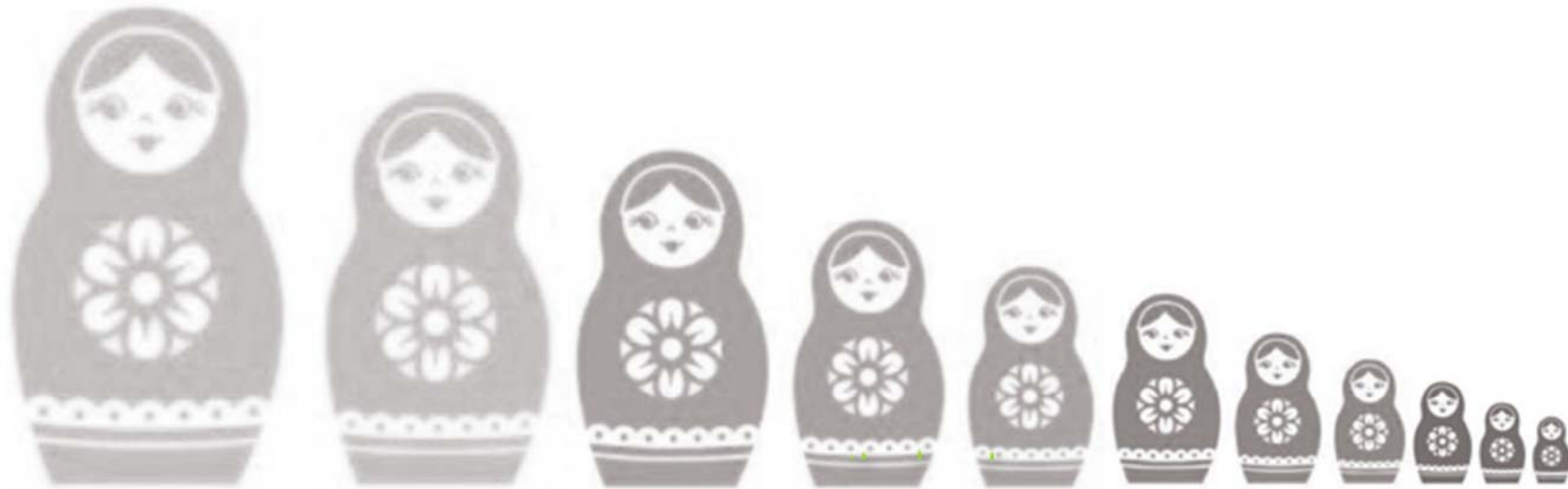


On minimised spaces...

next generation housing research: chapter 8



Chapter Question

Through spatial efficiency and flexibility a high quality of life can be maintained with a vast reduction in floor area. projects like Nendo's Drawer House, M-CH by Micro-Compact Home and Micro-Flat by Piercy Conner use detailed design to compress domestic spaces to the point of being 'appliances-for-living-in'. Casulo take a different approach where furniture 'nests' like a Russian Doll maximising mobility for a nomadic lifestyle. How can the apartment or terrace typology be reduced and reconfigured yet still meet the needs of the Australian housing market? Can savings in unit-site-costs and materials be transferred to operability and componentry and result in affordable housing outcomes?

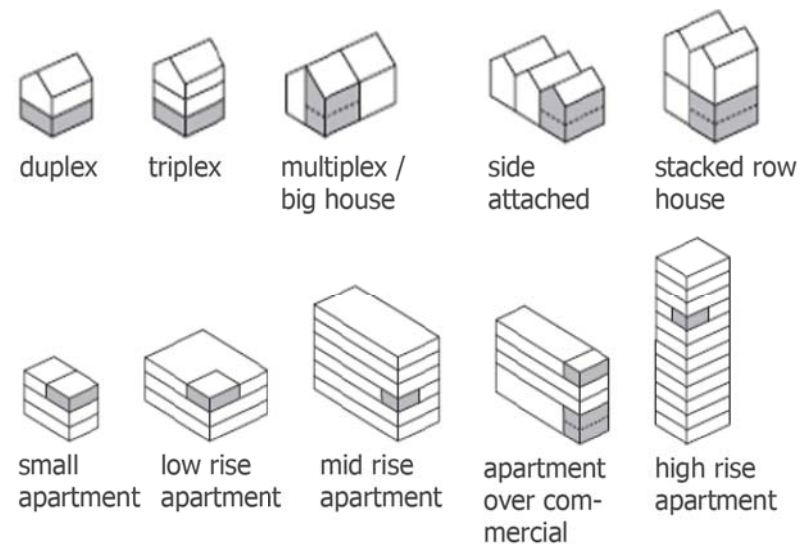
Typology of freestanding house

The freestanding house epitomises a sense of 'home' and is the most common type of house people associate with the word.

The quantities of this housing typology are immediately noticeable. For example:

- stands on its own
- building faces in all directions
- the passage of the sun can be experienced throughout the entire house
- it's orientation makes it possible to frame particular views.

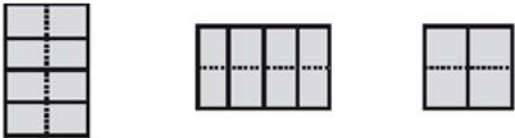
From a psychological point of view, the freestanding house embodies the "desire for one's own patch of land" and the sense of ownership. For example, a fence or enclosure, front garden, one's own front door, and anything else that creates space between oneself and one's neighbour.



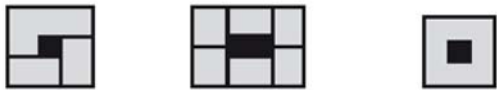
Floor plan types

The typology of freestanding house is essentially determined by their primary means of circulation and access to the apartments. Because freestanding buildings stand alone and therefore face in all directions, spatial categories become less applicable.

Semi-detached: no staircase and each party has their own entrance at ground



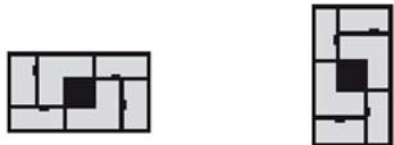
Communal staircase access: access to one or more apartments per floor



Courtyard access: main access zone which provides communication and interaction



Hybrid: different access systems therefore a diverse range of apartment types



High-rise: access systems fulfils large portion of floor space



Urban Intervention

Building plots have become expensive and land availability has decreased, while land development cost increase. Therefore patches on which ones dreams to own their own home have grown smaller.

One solution would be to stack the individual house in third dimension and combine several elements with one another while simultaneously addressing the psychological needs answered by the individual house. For example, each unit needs to include:

- own entrance (no joint staircases)
- own garage
- own frontyard
- garden fence
- light from all sides
- generous garden-like outdoor space which is not overlooked by neighbours.



In his plan "plan voisin", Le Corbusier examined the single house type by proposing freestanding buildings in the form of high-rise towers beneath which the landscape can freely flow.

capsule caravan

size of dwelling -



year of creation -

2008

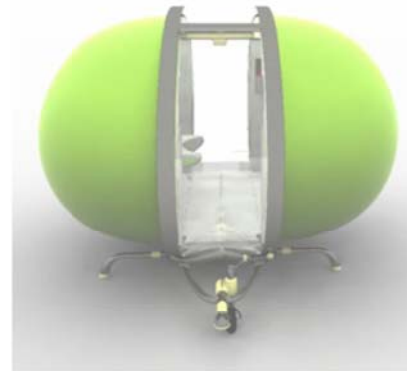
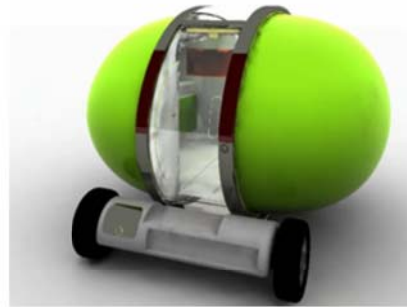
Population of city in the year of creation - 35,000,000 people

60,900,000

description -

The circular sleeper is a light, compact caravan that can be towed around by smaller vehicles.

Conceived as a way to take in summer music festivals by day while resting comfortably by night, the Capsule Caravan is one of the sharpest trailers around. it is clear that its not a house that one would spend most of there life living in, this capsule is about convenience helping one be in the right place at the right time for the right price.



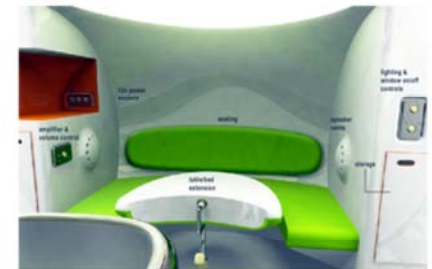
There are then two segments within the concept, referred to as the Comfort Pod and the Service Pod.

The Service Pod contains all the cleaning systems and storage areas, including things like the water system for washing up, a power supply to connect the toasted sandwich maker, and storage space for cutlery and other tools.

The Comfort Pod is where you relax, featuring a built-in amplifier and stereo that can be easily reached from the small couch. There's also a compact table that flips around and forms up with the couch to form a double bed

The Capsule Caravan brings the realm of mobile homes, traditionally the reserve of mature aged people, to a much younger demographic.

Aimed at space-conscious city dwellers, the Capsule Caravan concept is a lightweight and cost effective method of getting away at the weekend



CAPSULE HOTEL

size of dwelling -



year of creation -

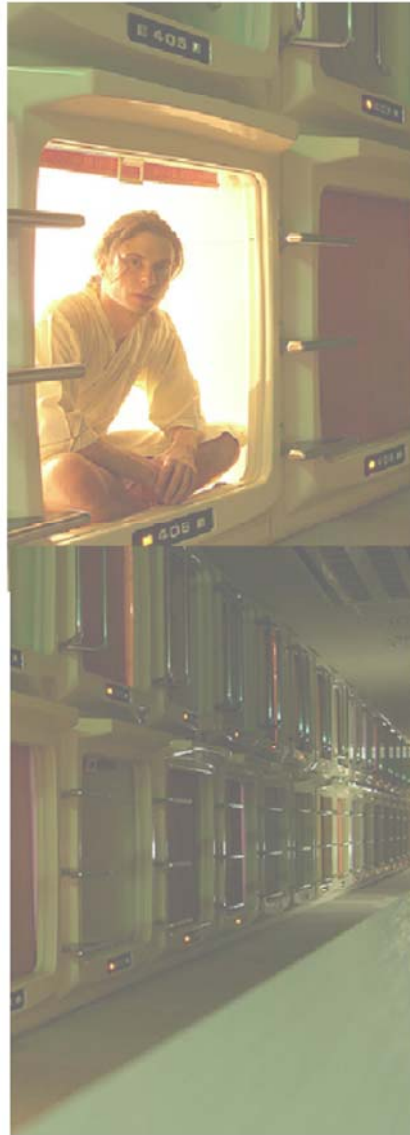
1980

Population of city in the year of creation -

20,700,000

description -

The capsules are 2m by 1 m by 1.25m, this is enough to allow people to sleep comfortably. However it is all it allows them to use. This range of space is made for people that don't want a kitchen or amenities, it is made purely for the purpose of spending the night in a capsule safe from the cold or heat of the outside environment. However people don't only sleep in these capsules, most of these console include a little television and a wireless Bluetooth connection, which allows people to check there emails and even log into work from "home".



description -

This is just a reminder that some people around the world don't need a two storey mansion with a basement and pool to call home. Depending on the city they are living in, some people don't need more then 2 meters squared, to spend the night.

This style of hotel accommodation was developed in Japan and has not gained popularity outside of the country, although Western variants with larger accommodations and often private baths are being developed



Kisho Kurokawa Nakagin

size of dwelling -



year of creation -

1970

Population of city in the year of creation - 35,000,000 people

16,500,000

description -

The Nakagin Capsule Tower is the world's first capsule architecture built for actual use. Capsule architecture design, establishment of the capsule as room and insertion of the capsule into a mega-structure

The Nakagin Capsule Tower takes on the challenge of the issue of whether mass production can express a diverse new quality. The Tower also strives to establish a space for the individual as a criticism to the Japan that modernized without undergoing any establishment of an "self".



The one-man-room capsule, a modified (4 x 2.5 meter) shipping container, has a circular window, a built-in bed and bathroom unit, and is complete with TV, radio and alarm clock. The capsule interior was pre-assembled in a factory then hoisted by crane and fastened to the concrete core shaft.

The Nakagin Capsule Tower realizes the ideas of metabolism, exchangeability, recycleability as the prototype of sustainable architecture



Micro-Compact Home: m-ch

size of dwelling -



year of creation -

2006

Population of city in the year of creation - 35,000,000 people

1,300,000

description -

The micro-compact home is specifically designed for short-stay smart living and is suitable for a variety of locations, providing sophisticated compact accommodation for business or leisure use. The slick aluminium cuboid pod integrates sound, flat-screen, communication and energy systems and requires no furniture. With a substantially reduced building volume there is an effect of creating a greater flow of nature through the building.



The micro-compact home (m-ch) is a 2.65m aluminium cubic pod, which integrates communication and energy systems and requires no furniture. The layout is influenced by traditional Japanese tea-house architecture with space divided into distinct zonal layers. Features include a plasma screen, built in hi-fi and fully fitted kitchen. Several units can be mounted on a separate external aluminium frame system in a vertical formation around a central lift and stair core to form a "village". The 02 Village illustrates an alternative horizontal assembly of units accessed from a 1m raised pathway containing services supplies.



micro flat – piercy conner

size of dwelling -



year of creation -

2003

Population of city in the year of creation -

7,500,000

description -

A high-density housing solution by Piercy Conner Architects for the busy (and expensive) London. The one-bedroom microflat measures just 32.5 m² and could cost less than €145,000, far less than the average one-bedroom in London



The aim is to keep the final cost of the Micro flat within £100,000. Before everyone else in the country has apoplexy, I should point out that they are talking about London here. A central London studio apartment for £100,000 is thought to be good value"

this shows that small units are mostly designed because people want affordable housing. people want to live closer to work and there day to day activity, and they want to do it for a low cost.



DRAWER HOUSE

size of dwelling -



year of creation -

2003

Population of city in the year of creation -

35,000,000

description -

This is a residential house which was designed by using the concept of a drawer/cupboard. This concept of hiding everything in the wall in one space, is unique and effective. It enables one area in the house to have a multi purpose, therefore saving space. However a home like this is more seen in countries such as Tokyo, where there is a high density in population.



Creative design and flexible space planning can make your square footage work twice as hard, no matter where you live

if you don't have the budget or space to make 3 storey mansions, Convertible Houses creates plenty of quick and easy opportunities to build a home in a tight place for a low price, with all the essentials needed.

"when the solution is the furniture instead of the home, you can take everything with you when you move."



NEXT GENERATION HOUSE

size of dwelling -



year of creation -

2008

Population of city in the year of creation - 127,000,000 people

127,000,000

Desription -

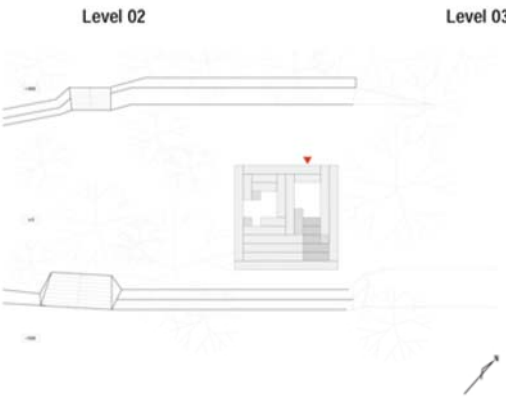
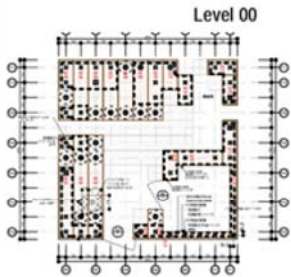
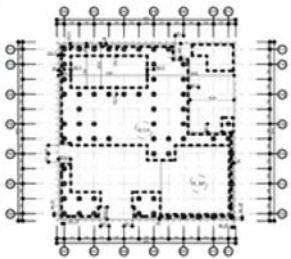
The weekender is designed by Sou Fujimoto Architects, and is located on the edge of a forest overlooking the River Kuma at Kumakura, Japan.

The house is a 4×4 meters cube, is constructed by assembling solid japanese cedar blocks kept in place by their own weight and connecting metal cables running through vertical drill holes.

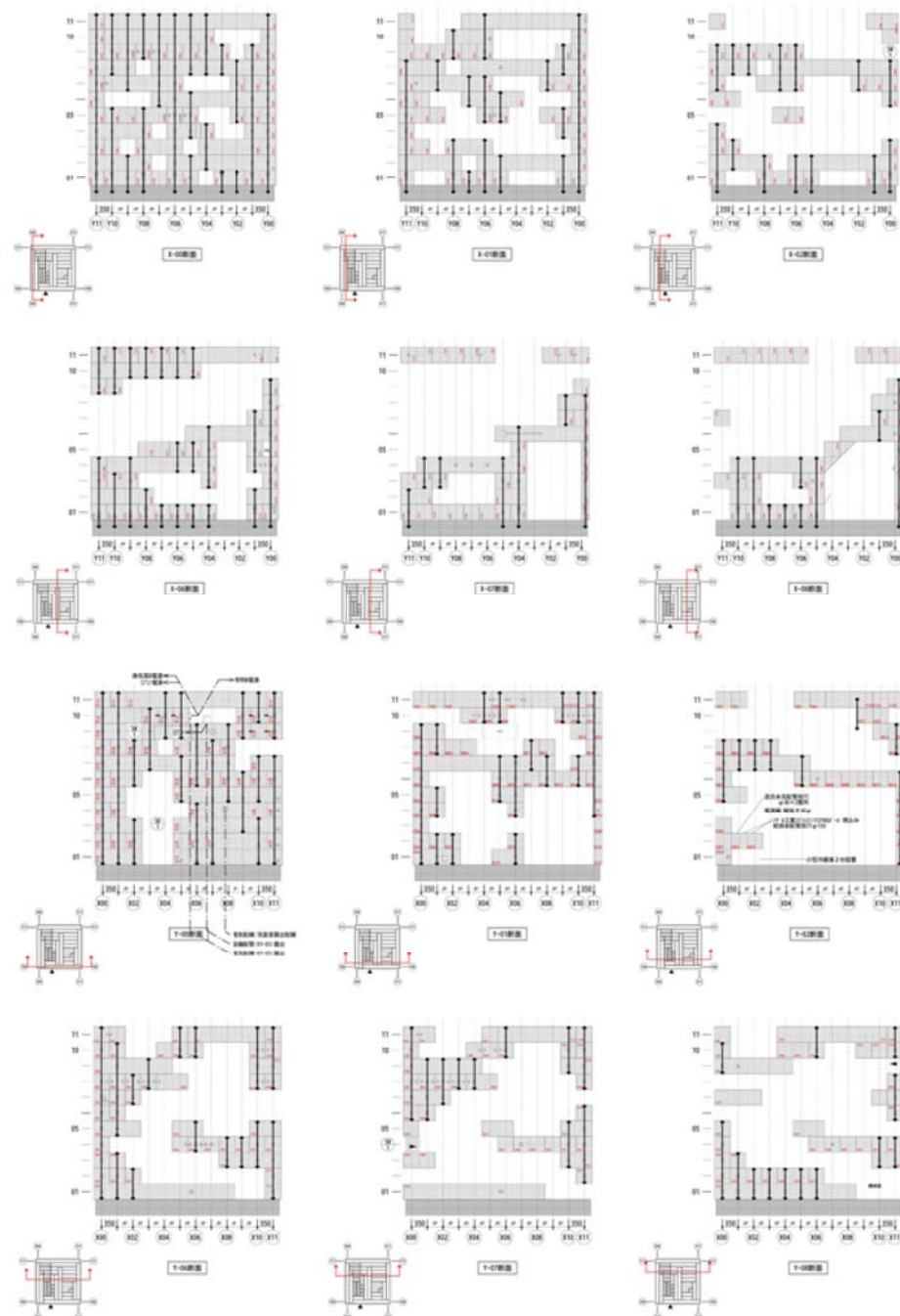
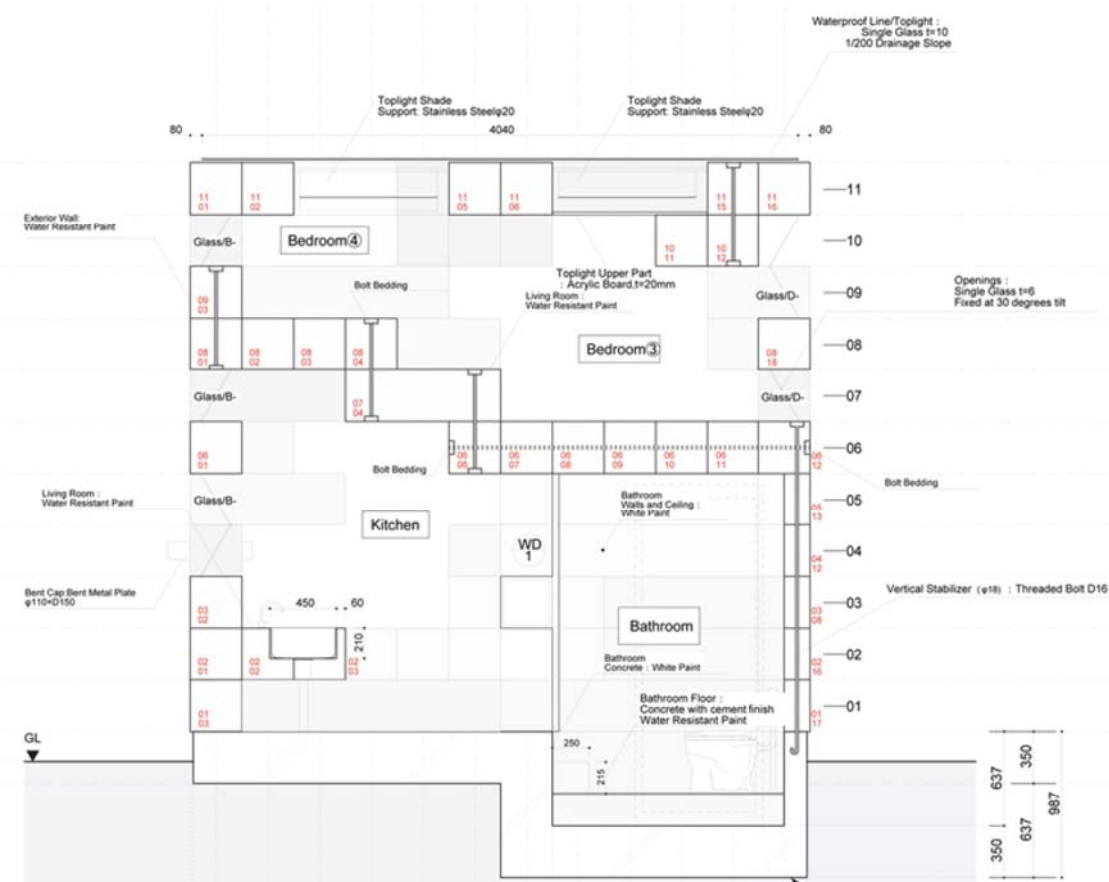
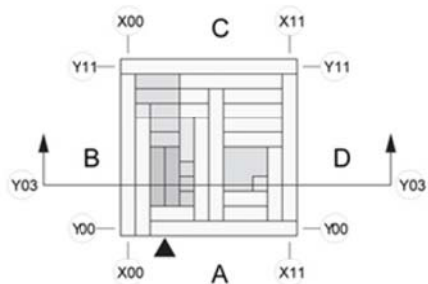
Shelves, small living areas and steps are created by off-centering the inside cubes. Windows are also formed through offsetting the wall cubes creating spectacular views of the surrounding countryside. Natural light is gained from the two roof skylights within the house.



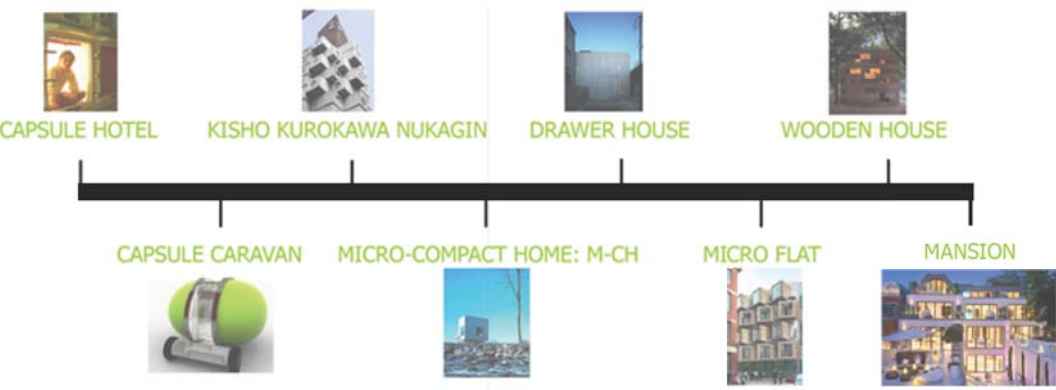
There are no distinctions of separations between floor, wall, and ceiling in this house. A place that one thought was a floor becomes a chair, a ceiling, a wall from various positions. The floor levels are relative to each person's position within the space, as is spatiality.



size of dwelling -



TIMELINE



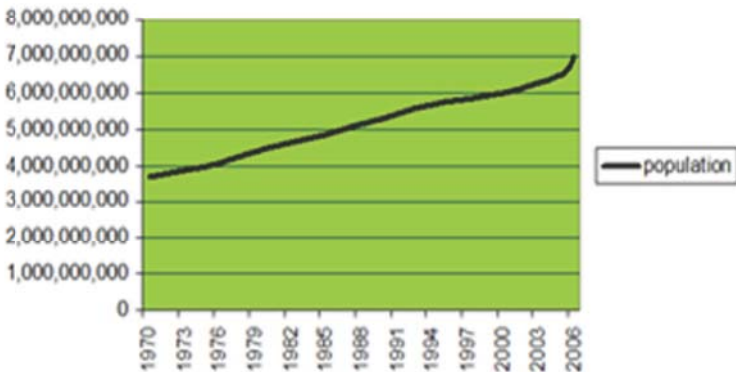
✓ Private ✓ Public

	Capsule Hotel	Capsule Caravan	Kisho Kurokawa Nukagin	M-CH	Drawer House	Micro Flat	Wooden House	Mansion
sleeping area	✓	✓	✓	✓	✓	✓	✓	✓
TV	✓	✓	✓	✓	✓	✓	✓	✓
sink	✓	✓	✓	✓	✓	✓	✓	✓
storage area	✓	✓	✓	✓	✓	✓	✓	✓
amenities	✓	✓	✓	✓	✓	✓	✓	✓
kitchen area	✓	✓	✓	✓	✓	✓	✓	✓
study area	✓	✓	✓	✓	✓	✓	✓	✓
gym	✓	✓	✓	✓	✓	✓	✓	✓
pool	✓	✓	✓	✓	✓	✓	✓	✓
living area	✓	✓	✓	✓	✓	✓	✓	✓
bar	✓	✓	✓	✓	✓	✓	✓	✓
entertainment	✓	✓	✓	✓	✓	✓	✓	✓
shopping	✓	✓	✓	✓	✓	✓	✓	✓

conclusion

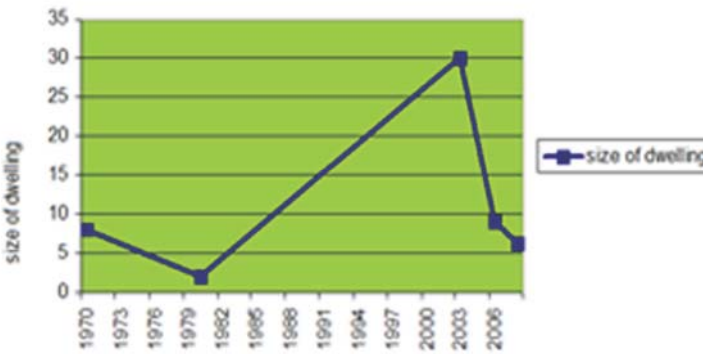
finding - Thousands of years ago, people were living in tiny houses and small tents, they didnt have a population issue. it was something else that was driving them, it is the same thing that drives us today, this is affordable housing. once the tables below are analysed one can begin to see that living in a pod / capsule / tent, is not something we have recently started doing but something that has been happening for years. People have always wanted a home that is cheap, a place to sleep near everyday work. technology is a key driver in small architecture, and as technology is becoming more affordable, it will assist in the constructuion of more small and well designed affordable housing.

finding - in graph one we can see that as time goes by the population of the world is increasing at a steadily.



graph 1

finding - in graph two it appears clear that over time as the population increase the size of our houses have no impact.



graph 2

Bibliography

Book References:

- Mostaedi, A, Innovative Houses, Carles Broto & Josep M Minguet, Spain
- Pfeifer, G, 2010, Freestanding Houses, Birkhauser Verlag AG, Germany
- Aranguiz, A, City Apartments, Josep M Minguet, Spain

Internet References:

- <http://www.nendo.jp/en/works/detail.php?y=2003&t=1>
- http://www.treehugger.com/files/2007/06/book_review_con.php
- <http://www.busyboo.com/2007/12/09/tiny-houses-microflats/>
- <http://www.bdonline.co.uk/story.asp?storycode=3098967>
- <http://blog.sub-studio.com/2008/08/next-generation-house-sou-fujimoto.html>
- <http://blog.sub-studio.com/2008/08/next-generation-house-sou-fujimoto.html>
- <http://www.tokyoessentials.com/quirky-tokyo.html>
- <http://www.vc-en.com/roots.html>
- <http://weburbanist.com/2009/07/01/futuristic-mobile-homes-trailer-trash-or-treasure/>
- <http://estrategiaempresarial.wordpress.com/2008/08/28/capsule-caravan-o-compacto-e-leve-trailer-para-camping/>
- <http://blog.miragestudio7.com/2007/10/kisho-kurokawa-1934-2007/>
- <http://www.del-uks.com/forum/viewtopic.php?t=2365>
- <http://www.technovelgy.com/ct/Science-Fiction-News.asp?NewsNum=450>

